St. Catherine NWR Alligator Survey-2000

2000 Alligator Survey - St. Catherine Creek NWR

The first St. Catherine Creek NWR Alligator Survey was taken on May 25, 2000. The purpose of this survey is to approximate the number of alligators inhabiting the refuge. The refuge personnel accumulating the data were Nathan Hill and Lee Johnson. Accompanying them were refuge interns Sidney Dobson, and Tony Stafford

.

METHOD

The alligator survey taken at night from a vehicle using a spotlight. By using a spotlight, alligators could be observed and counted by the eye shine, light reflected off their retinas. Taking the survey at night facilitated the observation.

Before the survey was initiated, measurements on the bodies of water known to contain alligators were taken. A total of eleven bodies of water on the refuge are or have been known to contain alligators. Using a rangefinder, the visual area of each location was extrapolated. From a spot on the bank, the maximum visual distance (MVD) to three points, 45° apart, were measured with the rangefinder. The mean of these three points was then recorded in yards to quantify the visual area of that position. The MVD was taken every .1 miles, and averaged. The total of the means was taken from the location and multiplied by three to obtain the total visual area in feet. This number was multiplied by .1 miles, or 528 feet, and then divided by 43,560 to obtain the number of acres surveyed.

The alligators observed were categorized on the basis of size. The size of an alligator can be used as indicators of sex, environmental quality, and reproductive success. An alligator's size was determined by using the eye to snout distance. The number of inches from the eyes to the tip of the snout is the same as the number feet an alligator measures from snout to tail.

The number of alligators present on the refuge can be found first by dividing the number of acres surveyed by the number of alligators seen. The total acreage of water is then divided by this number. The result is the estimated alligator population of the refuge.

RESULTS

The eleven bodies of water combined to form 106 surveyable acres. A total of eight alligators were observed at three different locations. The Ladies' Pond, Swamp, and West Gilliard Lake were the only productive locations. Of these three, four alligators were seen in the Ladies' Pond, while The Swamp and West Gilliard held three and one, respectively. Four of the eight were measured to be six feet long or less. The largest was noted as being between six and seven feet long. Three alligators disappeared before their lengths could be accurately measured, but they were certainly less than six feet long, probably between two and three feet.

With eight alligators observed on 99 acres, the ratio of alligators to acres of water is about 1:13, or one alligator for every 13 acres of water. The refuge contains 1898 acres of water, therefore we estimate the refuge's alligator population to be approximately 146 animals.

Acreage total/visible

Location	Total Acreage	Visible Acreage
Ladies Pond	1	1
Swamp	217	21.7
Gilliard Lake	650	40
Armstrong	10	10
Old St. Cat. Creek, Blue Hole	96	17
Long Lake	56	17

	2000 Alligator Survey - St. Catherine Creek NWR															
Section	< 1'	1' - 2'	2' - 3'	3' - 4'	4' - 5'	5' - 6'	6' - 7'	7' - 8'	8' - 9'	9' - 10'	10' - 11'	11' - 12'	12' - 13'	13' - 14'	14' - 15'	> 15'
Ladies Pond*			O O O				X									
Swamp		X		X	X											
Alligator Lake																
Gilliard West		X														
Gilliard East																
Armstrong																
Butler Lake																
Salt Lake																
St. Cat. Creek																
Blue Hole																
Long Lake																

* O indicates alligator of undetermined length